Network Service and Emergency Redispatch Associated with the Federal Columbia River Power System

Purpose

This proposed Redispatch methodology provides a method for calculating the cost associated with adjusting the Federal Columbia River Power System (FCRPS) to alleviate transmission constraints for NT Service prior to the hour and for emergency purposes within the hour, and for recovering those costs.

FY04/FY05 Transmission Rate Case Settlement

The TBL compensates the PBL for redispatch services specified in the Open Access Transmission Tariff Attachment K (attached) by paying the PBL $3 million per year in FY2004 and FY2005. The $3 million compensation was agreed to in settlement and was included the transmission rates.

Proposal for Rate Period (FY06/FY07)

BPA proposes to maintain the provisions of Attachment K, but change the approach to the payment to PBL for providing such services.

When a transmission constraint materializes that affects NT Service or grid reliability, the PBL is requested to adjust its generation on either side of the constraint – simultaneously ramping up ("inc") generation on one side and reducing ("dec") generation on the other.

Calculating the Cost of Redispatch

In estimating the cost of redispatch on the Federal System, a reasonable starting assumption is that the PBL could use market purchases and sales to meet its redispatch obligations.

For example, on the congested side of the constraint, where generation must be decremented to alleviate the congestion, rather than reducing generation at a Federal project, the project's output could be sold into the market on the constrained side of the flowgate. This would displace other generation and alleviate the congestion. Under this assumption, the revenue associated with the sale of the reduced generation is the cost for the "dec." Under most conditions, market prices can be expected to decline on the congested side of the path.

Carrying this logic forward, when incremental generation is called upon under a redispatch scenario, PBL would make market purchases to meet the request for incremental energy. Under most conditions, this incremental demand for energy is associated with a short-term increase in the price of power relative to the other side of the constraint. By purchasing, the PBL could

provide the incremental power and maintain the same discharge condition of the FCRPS on the "inc" side of the flowgate. The cost associated with the market purchases represents the cost of providing the "inc."

PBL is not committing to buying and selling each time that a redispatch occurs. Rather, it is using the assumption that it could buy and sell to alleviate the congestion to set up a cost for the redispatch. In this methodology, PBL's cost of redispatch is the difference between the cost of power on the congested and uncongested sides of the path. Since PBL does not currently have a way of evaluating the hydrologic impacts and cannot assume perfect liquidity to keep the system unaffected PBL may consider an adder for the hydrological impacts.

I. Cost Methodology for BPA Network Flowgates where federal generation is located on both sides of the flowgate:

Under normal circumstances, the BPA Network Flowgates can be redispatched by reducing generation on the Upper Columbia and increasing a like amount of generation on the Lower Columbia. Decremental energy would therefore be sold into the hourly Mid-C market and incremental energy would be purchased from the COB market.

For prior-to-hour (pre-schedule) redispatches:

INC Value: based on the PowerDex Hourly Firm rate for COB on the hour(s) the redispatch occurs.

DEC Value: based on the PowerDex Hourly Firm rate for Mid-C on the hour(s) the redispatch occurs.

For within-hour redispatches:

PBL will use the flexibility of the FCRPS within the hour to redispatch and make the assumption it would purchase and sell in the next hour after the redispatch occurred.

INC Value: based on the PowerDex Hourly Firm rate for COB on the hour immediately following the redispatch occurrence.

DEC Value: based on the PowerDex Hourly Firm rate for Mid-C on the hour immediately following the redispatch occurrence.

Calculation:

Cost of redispatch =

INC Value (including the cost of Intertie South to North) - DEC Value

II. Cost Methodology for BPA Network Flowgates where: 1. Federal generation is not located on both sides of the internal flowgate, 2. There is limited ability to INC a federal resource, and 3. for areas where there is an interchange constraint.

Currently these flowgates include: PSANI, Cross Cascades North, Cross Cascades South, and energy needing to flow to the Idaho-NW interchange.

Method:

For the cost of the redispatch, use the actual cost associated with either purchasing energy from a 3rd party; or re-routing energy using alternative 3rd party transmission paths to alleviate the constraint.

A. If purchasing energy to alleviate the constraint:

For prior-to-hour (pre-schedule) redispatches:

INC Value: based on the cost of the energy purchased and all associated transmission costs (including real power losses).

DEC Value: based on the PowerDex Hourly Firm rate for Mid-C on the hour(s) the redispatch occurs.

For within-hour redispatches:

INC Value: based on the cost of the energy purchased and all associated transmission costs (including real power losses) on the hour immediately following the redispatch occurrence.

DEC Value: based on the PowerDex Hourly Firm rate for Mid-C on the hour immediately following the redispatch occurrence.

Calculation:

Cost of redispatch = INC Value - DEC Value

B. If using an alternative transmission route across a 3rd party system:

The cost will be based on the cost of the transmission, real power losses and all associated ancillary services.

TBL Payment and Billing for redispatch services:

There are 2 alternatives for the TBL payment:

1. BPA could forecast the amount of redispatch and the cost of the redispatch (using the methodology above for calculating the cost) for the rate period. The forecasted costs would be included in the Transmission Rates, as they are for the 2004-05 rate period.

2. For each actual redispatch occurrence within the rate period, BPA would calculate the costs using the above methodology. TBL would compensate PBL for the actual costs. TBL would bill the NT customers monthly for the actual costs of redispatch based on each customer's load ratio share. The load ratio share would be the customer's Network Load on the hour of the Transmission System peak divided by the total Network Load.

Recommendation: Alternative 2.

ATTACHMENT: OPEN ACCESS TRANSMISSION TARIFF

ATTACHMENT K

Procedures for Redispatch at Preschedule and in Real Time

For the period October 1, 2003, through September 30, 2005, to the extent the Transmission Provider determines that redispatch of Network Resources is necessary to maintain Network Integration Transmission (NT) Service, the Transmission Provider shall implement redispatch in accordance with the provisions of this Attachment K. Attachment K addresses only circumstances in which the Tariff requires NT and Point-to-Point (PTP) uses on a constraint be reduced on a comparable basis.

1. The Transmission Provider shall not issue redispatch instructions under this Attachment K to increase ATC.

2. The BPA Power Business Line (PBL) will inform the Transmission Provider of all non-power constraints that limit the PBL's ability to redispatch generation resources. The Transmission Provider will not violate these non-power constraints unless an emergency situation leaves no other alternative for maintaining system reliability or providing safety to individuals or property. Notwithstanding any other provision of Attachment K, the protection of transmission system reliability and the safety of people and property will be the primary criteria the Transmission Provider will use in an emergency situation.

3. PBL will provide the Transmission Provider federal hydroelectric generation resource set points. The Transmission Provider may request changes to such set points. Not all changes to set points are redispatch.

4. For redispatch that occurs within the hour of delivery:

   If the Transmission Provider determines that a redispatch of federal hydro-electric projects is necessary to maintain the reliability of the FCRTS in real-time and the Transmission Provider is unable to calculate the portion of the constraint attributable to NT schedules, the Transmission Provider may redispatch the federal hydro-electric projects as necessary to relieve the constraint for the remainder of the hour and, if the event occurs twenty minutes past the hour, for the next hour also. However, the Transmission Provider must make the determination described in section 5 as soon as possible, not to exceed 100 minutes after the need for redispatch arises, and adjust the redispatch instructions accordingly.

5. For Day-ahead and Hour-ahead redispatch:

    a. The Transmission Provider will use redispatch only to manage congestion on the FCRTS that would impact NT schedules. The Transmission Provider will redispatch the system only to the extent necessary to maintain the NT schedules.

    b. The Transmission Provider will not issue any redispatch instructions until it has curtailed all non-firm schedules across the constrained path.

    c. If the Transmission Provider determines that a constraint can be relieved by redispatching federal hydro-electric projects, the Transmission Provider will determine what portion of the constraint is caused by NT schedules and what portion is caused by PTP schedules. Then the Transmission Provider will issue a redispatch instruction in an amount that will relieve the NT portion of the constraint and will curtail the PTP schedules in an amount necessary to relieve the PTP portion of the constraint.

    d. If the Transmission Provider determines that the portion of the constraint caused by NT schedules cannot be relieved by only redispatching federal hydro-electric projects, the Transmission Provider will contact the PBL schedulers and inform the PBL schedulers of the amount of NT schedule associated with the constraint. The PBL schedulers will attempt to relieve the constraint by the least cost means, including, but not limited to, purchasing alternative transmission from a third party, purchasing replacement generation from a third-party and redispatching federal generation accordingly, or requesting third party generation to decrease and using federal generation to replace the third-party generation. In making these arrangements the PBL will act as a purchasing agent for the Transmission Provider.

6. The Transmission Provider will not request redispatch for any purpose under the Tariff other than that stated herein or otherwise required by the Tariff.